PANDEMIC INFLUENZA
U•P•D•A•T•E

Public Health Prepares

January 2007

Fast Facts

Pan Flu Definitions

❒ **Social Distancing:** Measures to decrease the frequency of contact among people

❒ **Non-pharmaceutical interventions (NPIs):** Measures that do not include pharmaceutical products such as vaccines and drugs

❒ **Quarantine:** Generally refers to the separation and restriction of movement of persons who, while not yet ill, have been *exposed* to an infectious agent and therefore may become infectious

❒ **Isolation:** Refers to the separation of persons who have a *specific* infectious illness from those who are healthy, and the restriction of their movement to stop the spread of that illness

If You Are Asked . . .

What is CDC doing to reduce the impact of pandemic influenza on communities?

CDC hosted a meeting in Atlanta December 12 with public health, government and community leaders to discuss potential measures that could mitigate the community impact of an influenza pandemic.

Participants discussed the potential use and impacts of community prevention strategies to serve as a first line of defense to help delay or reduce the spread of disease. These strategies are public health measures that do not involve vaccines or medications. Within a framework of targeted layered containment strategy, the strategies include non-pharmaceutical interventions such as social distancing, voluntary isolation, voluntary quarantine, use of personal protective equipments and the use of antiviral drugs for treatment of cases. Because the influenza vaccine production process is long and complicated, these strategies have the potential to mitigate the community impact of an influenza pandemic.

The discussion during this meeting will help inform the development of federal guidance for the use of community strategies to reduce the impact of pandemic influenza.

Get Involved

The federal government is seeking your help in developing guidance to assist state and local governments, communities, tribal and territorial governments and the private sector in defining groups that should be considered for priority access to scarce vaccine.

Request for Information
Submit your Comments

Request for Information: http://aspe.hhs.gov/PIV/RFI
Submit Comments: pandemicflu.rfi@hhs.gov
Voluntary Isolation: http://www.redcross.org/preparedness/cdc_english/quarantine-1.asp
Voluntary Quarantine: http://www.redcross.org/preparedness/cdc_english/quarantine-2.asp
Antivirals: http://www.cdc.gov/flu/protect/antiviral

Public Health Prepares ...

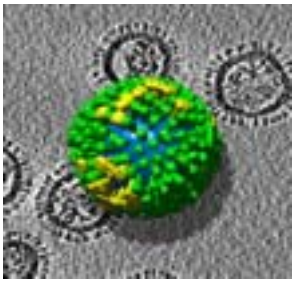
HHS Pursues Advance Development of New Influenza Antiviral Drug

HHS Secretary Mike Leavitt announced January 4, 2007, that the Department has awarded a $102.6 million, four-year contract to BioCryst Pharmaceuticals, Inc. for advanced development of their influenza antiviral drug, peramivir.

In laboratory studies to date, peramivir has shown effectiveness against a number of influenza strains. Funding provided under the new contract will support further studies to determine if peramivir can be an effective treatment for seasonal and life-threatening influenza, including highly pathogenic H5N1 influenza. Additional research may also examine the drug's potential use for prophylaxis to protect against influenza infection. (Full Story)

Molecular Anatomy of Influenza Virus Detailed

Scientists at the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), part of the National Institutes of Health in Bethesda, Md., and colleagues at the University of Virginia in Charlottesville have succeeded in imaging, in unprecedented detail, the virus that causes influenza.



The three-dimensional structure of influenza virus from electron tomography. The viruses are about 120 nanometers — about one ten thousandth of a millimeter — in diameter.

A team of researchers led by NIAMS' Alasdair Steven, Ph.D., working with a version of the seasonal H3N2 strain of influenza A virus, has been able to distinguish five different kinds of influenza virus particles in the same isolate (sample) and map the distribution of molecules in each of them. This breakthrough has the potential to identify particular features of highly virulent strains, and to provide insight into how antibodies inactivate the virus, and how viruses recognize susceptible cells and enter them in the act of infection. (Full Story)

How Much Time Does it Take to Develop and Produce an Influenza Vaccine?

The influenza vaccine production process is long and complicated. Traditional influenza vaccine production for the United States relies on long-standing technology based on chicken eggs. This production technology is labor-intensive and takes up to nine months from start to finish.

The flu vaccine production process is further complicated by the fact that influenza virus strains continually evolve. Thus, seasonal flu vaccines must be modified each year to match the strains of the virus that are known to be in circulation among humans around the world. As a result of this constant viral evolution, seasonal influenza vaccines cannot be stockpiled year to year.

The appearance of an influenza pandemic virus would likely require creation of a vaccine. Researchers are making and testing possible H5N1 vaccines now.

Large amounts of vaccine cannot be made before knowing exactly which virus will cause the pandemic. It could then take up to six months before a vaccine is available and in only limited amounts at first. Research is underway to make vaccines more quickly.

HHS Story: http://www.hhs.gov/news/press/2007pres/20070104.html
Molecular Anatomy: http://www.nih.gov/news/pr/dec2006/niams-29.htm

Update of H5N1: Global Activity Humans and Birds

Humans: Since January 2004, 263 confirmed cases in humans resulting in 157 deaths have occurred in the following nations: Cambodia 6 cases and 6 deaths; China 21 cases and 14 deaths; Indonesia 76 cases and 57 deaths; Thailand 24 cases and 16 deaths; Vietnam 93 cases and 42 deaths; Azerbaijan 8 cases and 5 deaths; Iraq 3 cases and 2 deaths; Turkey 12 cases and 4 deaths; Djibouti 1 case and Egypt 18 cases and 8 deaths. (Visit the WHO Web site for the most recent human cases reports.)

Birds: Vietnam reported new outbreaks of H5N1 among poultry in two provinces January 4. South Korea reported three new outbreaks of H5N1 among poultry. Vietnam also reported a recurrence of outbreaks among poultry. Since December 2003, H5N1 infections in animals have been reported in Asia, Africa, the Pacific, Europe and the Near East. View the update on avian influenza in animals from the World Organization for Animal Health Web site.

CDC Recommends ...

Crisis & Emergency Risk Communication Course Tackles Pandemic Influenza with 10-City Tour

The latest *Crisis and Emergency Risk Communication: Pandemic Influenza* course book did not even make it to the bookshelf. Hot off the printing press, training using the course book began in 10 cities; the first held in Philadelphia, Pennsylvania on September 6 and 7, 2006. The course is a 1½-day training that offers a combination of influenza communication tabletop exercises and informative group discussions.

Barbara Reynolds, Public Affairs Coorinator, Office of Enterprise Communication, discusses 'Community Hardiness' with community leaders and communication professionals.

This model of training has proven highly successful since CDC presented the basic Crisis and Emergency Risk Communication (CERC) training in September 2002 -- a course that continues to be taught nationally and internationally.

Communicating the right message at the right time and by the right person to concerned members of the community will be a paramount responsibility and could in fact save lives. CDC's pandemic influenza CERC course gives community leaders and communication professionals the best approaches and tools to exercise quality communication before, during, and after a pandemic. The new component covers communication challenges unique to an influenza pandemic such as community hardiness, methods for reaching special populations, countering stigmatization, as well as loss and grief rituals.

The objective of the course was to train pandemic influenza response officials and communication professionals across the nation and territories, prepare 55 "train-the-trainers" point people and provide support materials to allow further regional, state, and local training.

Human Cases: http://www.who.int/csr/disease/avian_influenza/en
Animal Cases: http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm

Pass This On ...

NIAID DNA Vaccine for H5N1 Avian Influenza Enters Human Trail

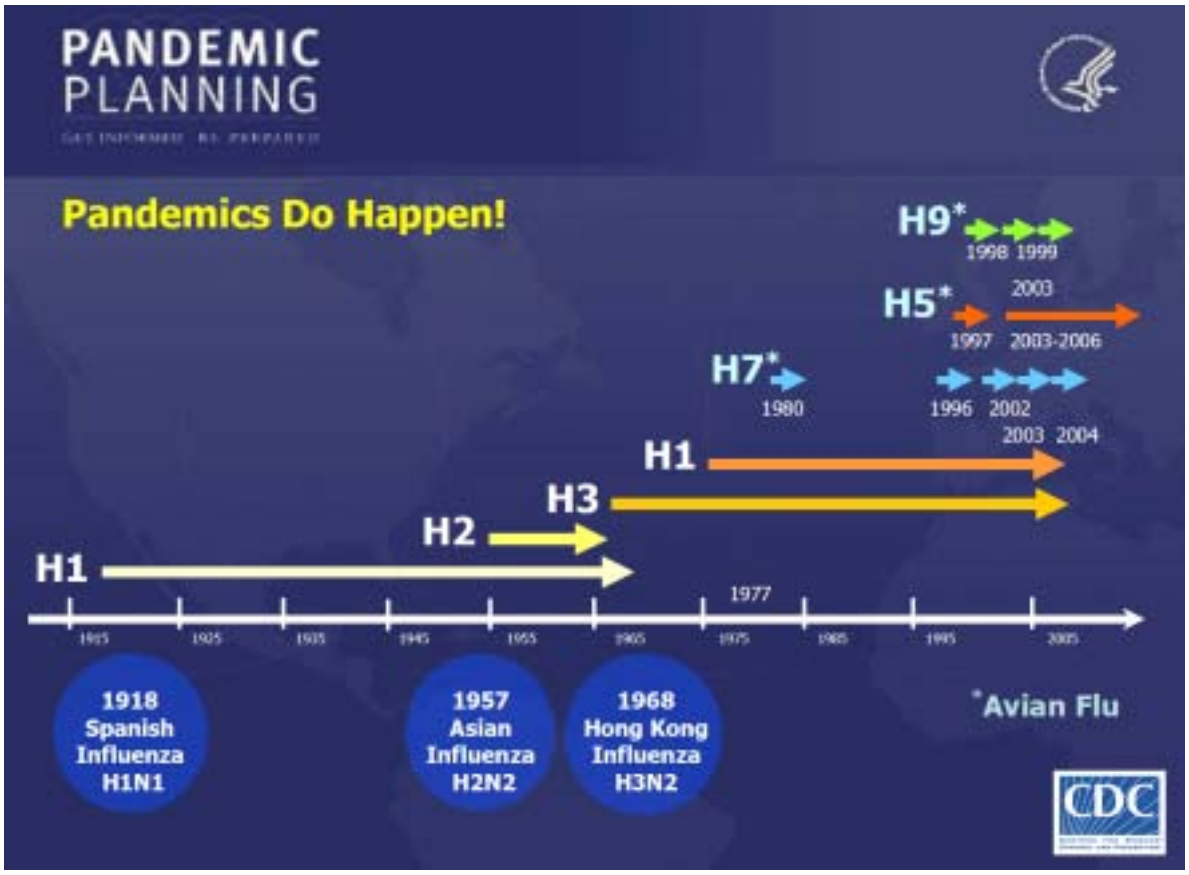
The first human trial of a DNA vaccine designed to prevent H5N1 avian influenza infection began December 21, 2006, when the vaccine was administered to the first volunteer at the National Institutes of Health Clinical Center in Bethesda, Md. Scientists for the Vaccine Research Center at the National Institute of Allergy and Infectious Diseases (NIAID), designed the vaccine which does not contain any infectious material.

Unlike conventional flu vaccines, which are developed by growing the influenza virus in hen eggs and then administered as a weakened or killed form of the virus, DNA-based vaccines contain only portions of the influenza virus' genetic material. Once inside the body, the DNA instructs human cells to make proteins that act as a vaccine against the virus. (Full Story)

Pandemic Influenza Update: Reader's Feedback
The Pandemic Influenza Update is prepared by CDC's Priority Communication System and will now be prepared once a month. Information in this newsletter is sensitive and evolving. Readers are welcome to comment by e-mail to: panupdate@cdc.gov

"The (1918 Spanish Influenza) epidemic killed, at a very, very conservative estimate, 550,000 Americans in 10 months; that's more Americans than died in combat in all the wars of this century ...."

Alfred W. Crosby
Influenza 1918,
The American Experience



Human Trial: http://www.nih.gov/news/pr/jan2007/niaid-02.htm